

REMARKS

The Examiner has rejected claims 1, 4-6, 14, 16-19, 21, and 22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to Wilson et al. ("Wilson") in view of U.S. Patent No. 6,435,638 to Olsen et al. ("Olsen"). The Examiner has also rejected claims 2, 3, 9-11, 13, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of U.S. Patent No. 6,508,545 to Dowell et al. ("Dowell"). In addition, the Examiner has rejected claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of U.S. Patent No. 6,715,864 to Perkins et al. ("Perkins"). The Examiner has rejected Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen and Dowell, and further in view of Perkins. The Examiner has rejected Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of U.S. Patent No. 3,730,240 to Presnick ("Presnick"). The Examiner has rejected claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of Presnick. Claims 25-28 have been withdrawn from consideration. Claims 1-28 are currently pending. The following remarks are considered by applicant to overcome each of the Examiner's outstanding rejections to current claims 1-24. An early Notice of Allowance is therefore requested.

I. SUMMARY OF RELEVANT LAW

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The

Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

II. REJECTION OF CLAIMS 1, 4-6, 14, 16-19, 21, AND 22 UNDER 35 U.S.C. § 103(A) BASED ON WILSON IN VIEW OF OLSEN

On page 2 of the current Office Action, the Examiner rejects claims 1, 4-6, 14, 16-19, 21, and 22 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen. These rejections are respectfully traversed and believed overcome in view of the following discussion.

The ink cartridge of Wilson and the ink cartridge of Olsen are configured as indicated in the attached drawings (A) and (B) respectively found in the Appendix to this Response. More specifically explained, in the ink cartridge of Wilson, a flexible ink bag is accommodated in a rigid casing, and a communication passage for communication between an exterior of the ink cartridge and a space defined by and between the ink accommodating bag and the casing is formed in the ink delivering member. In the ink cartridge of Olsen, a flexible ink bag (inner bag) and a flexible outer bag that encloses the ink bag are accommodated in a rigid casing. A first space is defined by and between the ink bag and the outer bag while a second space is defined by and between the outer bag and the casing.

If Wilson and Olsen are combined, a person having ordinary skill in the art would usually conceive an ink cartridge configured as indicated in the attached drawing (C), found in the Appendix to this Response, in which the second space between the outer bag and the casing is in communication with the exterior of the ink cartridge. In contrast, the ink cartridge according to the present invention is configured as schematically indicated in the attached drawing (D) found in the Appendix to this Response. The ink cartridge of the present invention is configured such that the first space between the ink bag and the outer bag both formed of a flexible material is in communication with the exterior of the ink cartridge through a communication passage

formed in the ink delivering member, unlike the ink cartridge when in the drawing (C) which is configured such that the second space between the outer bag and the casing is in communication with the exterior of the ink cartridge. The present ink cartridge configured as described above would not be obvious to the person having ordinary skill in the art even if Wilson and Olsen were combined. It is apparent that neither Wilson nor Olsen discloses the structure of the ink cartridge according to the present invention. Further, the person skilled in the art would not have been motivated to employ the structure of the present ink cartridge in which the space between the two flexible bags is in communication with the exterior of the ink cartridge, in place of the structure in which the space between the casing and the outer bag is in communication with the exterior of the ink cartridge.

In the ink cartridge according to our new Claim 1, the space between the two flexible bags, namely, the first space, is in communication with the exterior of the ink cartridge. A person skilled in the art would not usually conceive such a structure even if he referred to Wilson and Olsen. Such a structure is never obvious over Wilson and Olsen.

The ink cartridge of our new Claim 1 constructed as described above enjoys the following advantages. For instance, in the ink cartridge defined in Claim 15 in which the first space is evacuated to a reduced pressure, it is not required for the casing to have a relatively high degree of mechanical strength since the second space is not evacuated to the reduced pressure. In addition, it is not necessary to keep the casing in a fluid-tightly or hermetically sealed state, thereby simplifying the structure of the casing. The ink cartridge according to the present invention is developed to offer such advantages described in paragraphs [0006] and [0007] of the specification.

The person skilled in the art never conceives the above-indicated advantages and object of the present invention (i.e., the ink cartridge of our new Claim 1) even in the light of the teachings of Wilson and Olsen. In this respect, too, the ink cartridge according to the present invention is never obvious over Wilson and Olsen.

In addition, the Examiner contends that Wilson discloses all of the limitations of Claim 1 except for disclosing that the outer bag is formed of a flexible sheet. Examiner then points to Olsen as satisfying this claim limitation. However, this is a misinterpretation of the teachings of both Wilson and Olsen. Specifically, neither reference discloses the outer bag nor the communication passage as specified in Claim 1. As such, Applicants respectfully asserts that the Examiner's rejection stands in error.

Claim 1 of the current application states, in part:

“an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag;

“wherein the ink delivering member further includes an ink outlet passage through which the ink in the ink accommodating bag is delivered to an exterior of the ink cartridge and a communication passage through which the first space is held in communication with the exterior of the ink cartridge.”

(emphasis added).

Accordingly, the outer bag, amongst other things, must (1) be formed of a flexible sheet and (2) be formed such that a first space is defined by and between the ink accommodating bag and the outer bag. Examiner has admitted that Wilson does not disclose such an outer bag. Moreover, neither does Olsen disclose such an outer bag.

Olsen discloses sidewalls 32 and 32' which make up the ink containment bag. Olsen, Col. 2, Lns. 50-67. Side wall 23 has an inner layer 34 and an outer layer 36 which are coextensive therewith. *Id.* Similarly, Side wall 23' has an inner layer 34' and an outer layer 36' which are coextensive therewith. *Id.* Coextensive means “equal or coincident in space, time, or scope.” Dictionary.com Unabridged (v 1.1). Random House, Inc. 11 Jan. 2007, Dictionary.com, <http://dictionary.reference.com/browse/coextensive>. Accordingly, Olsen describes there being no space between either inner layer 34 and outer layer 36, or inner layer 34' and outer layer 36'.

Furthermore, Olsen never discloses any “first space” defined by and between the inner and outer layers. While Olsen does disclose an inner bag 144 and an outer bag 146 in a later embodiment, they are described as being in a “nested configuration”, and no space between the inner bag 144 and the outer bag 146 is described. Olsen, Col. 3, Lns. 62-67, Col. 4, Lns. 1-3. Accordingly, Olsen does not disclose an outer bag as specified in Claim 1.

In addition, Wilson does not disclose a communication passage as specified in Claim 1. Since Wilson fails to disclose an outer bag as specified in Claim 1, Wilson also fails to disclose the “first space” of Claim 1 as the “first space” only has meaning in relation to the outer bag, which is non-existent in Wilson. The communication passage, as specified in Claim 1, must hold the “first space” in communication with the exterior of the ink package. However, Wilson discloses no such “first space”. Therefore, Wilson fails to disclose a communication passage as specified in Claim 1.

Olsen also fails to disclose such a communication passage. In addition to the fact that Olsen never discloses a “first space”, as discussed above, Olsen never discloses any device that could be remotely construed as a communication passage.

Furthermore, it is impossible to combine Wilson and Olsen to arrive at all of the claim limitations of Claim 1.

Wilson describes the collapsible ink reservoir 114, the unoccupied portion 103b, the air inlet 1108, and the pressure vessel 1102 in the context of an ink delivery system. Ink is housed in the ink reservoir 114, not the unoccupied portion 103b. The air inlet 1108 is the only flow path into or out of the unoccupied portion 103b. Wilson, Col. 4, Lns. 40-42. The pressure of the unoccupied portion is increased in order to increase the pressure on the ink reservoir 114 so as to deliver the ink to its desired medium. *See Id.* Should ink escape the ink reservoir 114 and travel into the unoccupied portion 103b, the delivery system would fail to work.

Olsen describes its double-walled construction as a redundant system used solely for the purpose of containing ink or fluid toner. Olsen, Col. 3, Lns. 39-46. Should the inner layer rupture, the outer layer will continue to contain the ink or liquid toner, thus ensuring the integrity

of the ink reservoir. *Id.* As such, Olsen anticipates the inner layer of the ink reservoir rupturing and accommodates for this by providing an outer layer so that the ink delivery system will continue to function in such an event. Accordingly, the bags 144 and 146 of Olsen together comprise the ink reservoir.

One of skill in the art, combining Wilson and Olsen, would arrive at an ink delivery system where the walls of the ink reservoir comprised two films to ensure the integrity of the ink reservoir. In such a combination, the unoccupied portion 103b of Wilson, to which the air inlet 1108 is in communication, would be located outside the outer layers 36 and 36', or outer bag 146, of Olsen. Only in such a configuration will the invention of Olsen function.

However, such a combination would still fail to disclose the outer bag of Claim 1 because, amongst other things, there is still no outer bag disclosed that (1) is formed of a flexible sheet and (2) is formed such that a space is defined by and between the ink accommodating bag and the outer bag. In addition, such a combination would also fail to disclose the communication passage because no "firs space" as set forth in Claim 1 is disclosed. Moreover, the air inlet 1108 must be connected to the unoccupied portion 103b which is located outside of outer bag 146 according to the teachings of Olsen, rather than to any "space" between an outer bag and an ink accommodating bag as set forth in Claim 1.

Contrary to Examiner's assertion, one of skill in the art would not combine Wilson with Olsen and place the unoccupied portion 103b of Wilson in between the outer bag 146 and the inner bag 144 of Olsen. Such a combination is not only counterintuitive, but would directly contradict the teachings of Olsen. Olsen teaches that the double bagged ink reservoir is necessary in order to ensure proper ink containment. By placing the unoccupied portion 103b of Wilson in between the outer bag 146 and the inner bag 144 of Olsen, the double bagged ink reservoir would be destroyed. Accordingly, when the inner bag 144 ruptures, which is what Olsen anticipates, the ink delivery system would cease to operate. Therefore, the only reasonable combination is to place the unoccupied portion 103b outside the outer bag 146.

In fact, the Examiner admits that “Olsen teaches that the inner bag’s material, **in combination with a surrounding outer bag**, provides a leak proof feature.” Office Action (12/08/06), P. 15. As such, the Examiner has admitted that Olsen requires the ink reservoir to comprise both the inner and outer bags, and not just the inner bag. Accordingly, a communication passage as defined in Claim 1 cannot be made in between the inner and outer bags as this would completely destroy the double bagged feature of the ink reservoir of Olsen. As such, Olsen directly teaches away from the combination as suggested by the Examiner.

With regard to applicant’s previous argument surrounding the destruction of the accuracy of Wilson’s pressure sensor by combining Wilson and Olsen in the manner suggested by the Examiner, the examiner contends that all the structural limitations of the claims have been met by the combination of Wilson as modified by Olsen and that, therefore, it is irrelevant that such a combination would destroy the accuracy of Wilson’s pressure sensor. However, this misses the relevant point, which is that the examiner may not merely combine attributes of cited references without regard to their teachings, as there must be some motivation to combine the references in the manner suggested by the Examiner. See MPEP § 706.02(j). In this case, there can be no motivation to combine the references in the manner described by the Examiner because such a combination would destroy an important aspect of the teachings of Wilson, namely the pressure sensor. As such, Wilson teaches away from the combination asserted by the Examiner.

Since both Olsen and Wilson each teach away from the combination as asserted by the Examiner, there can be no motivation to combine the two references in the manner suggested by the Examiner.

Neither Wilson nor Olsen describes the outer bag or the communication passage of Claim 1. As such, the references cited by the Examiner do not teach or suggest all of the limitations of Claim 1. Moreover, one of ordinary skill in the art would not combine Wilson and Olsen to arrive at the invention as described in Claim 1. Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of obviousness of independent

Claim 1 and corresponding claims 4-6, 14, 16-19, 21, and 22 because they are all dependant from Claim 1. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 1, 4-6, 14, 16-19, 21, and 22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to Wilson et al. in view of U.S. Patent No. 6,435,638 to Olsen et al.

III. REJECTION OF CLAIMS 2, 3, 9-11, 13, AND 20 UNDER 35 U.S.C. § 103(A) BASED ON WILSON IN VIEW OF OLSEN, AND FURTHER IN VIEW OF DOWELL

On page 6 of the current Office Action, the Examiner rejects claims 2, 3, 9-11, 13, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of Dowell. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claims 2, 3, 9-11, 13, and 20 are each ultimately dependent upon independent Claim 1. As Claim 1 is allowable, so must be claims 2, 3, 9-11, 13, and 20. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 2, 3, 9-11, 13, and 20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to Wilson et al. in view of U.S. Patent No. 6,435,638 to Olsen et al., and further in view of U.S. Patent No. 6,508,545 to Dowell et al.

IV. REJECTION OF CLAIMS 7 AND 8 UNDER 35 U.S.C. § 103(A) BASED ON WILSON IN VIEW OF OLSEN, AND FURTHER IN VIEW OF PERKINS

On page 10 of the current Office Action, the Examiner rejects claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of Perkins. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claims 7 and 8 are each ultimately dependent upon independent Claim 1. As Claim 1 is allowable, so must be claims 7 and 8. Therefore, Applicant respectfully requests that

Examiner remove the rejections of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to Wilson et al. in view of U.S. Patent No. 6,435,638 to Olsen et al., and further in view of U.S. Patent No. 6,715,864 to Perkins et al.

V. REJECTION OF CLAIM 12 UNDER 35 U.S.C. § 103(A) BASED ON WILSON IN VIEW OF OLSEN AND DOWEL, AND FURTHER IN VIEW OF PERKINS

On page 11 of the current Office Action, the Examiner rejects Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen and Dowell, and further in view of Perkins. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 12 is ultimately dependent upon independent Claim 1. As Claim 1 is allowable, so must be Claim 12. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to Wilson et al. in view of U.S. Patent No. 6,435,638 to Olsen et al. and U.S. Patent No. 6,508,545 to Dowell et al., and further in view of U.S. Patent No. 6,715,864 to Perkins et al.

VI. REJECTION OF CLAIM 15 UNDER 35 U.S.C. § 103(A) BASED ON WILSON IN VIEW OF OLSEN, AND FURTHER IN VIEW OF PRESNICK

On page 12 of the current Office Action, the Examiner rejects Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of Presnick. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 15 is dependent upon independent Claim 1. As Claim 1 is allowable, so must be Claim 15. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to

Wilson et al. in view of U.S. Patent No. 6,435,638 to Olsen et al., and further in view of U.S. Patent No. 3,730,240 to Presnick.

VII. REJECTION OF CLAIMS 23 AND 24 UNDER 35 U.S.C. § 103(A) BASED ON WILSON IN VIEW OF OLSEN, AND FURTHER IN VIEW OF PRESNICK

On page 13 of the current Office Action, the Examiner rejects claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Wilson in view of Olsen, and further in view of Presnick. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claim 23 of the current application states, in part:

“an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag;”

(emphasis added).

Accordingly, the outer bag, amongst other things, must (1) be formed of a flexible sheet and (2) be formed such that a first space is defined by and between the ink accommodating bag and the outer bag. Examiner has admitted that Wilson does not disclose such an outer bag. Moreover, as discussed above in relation to Claim 1, neither does Olsen disclose such an outer bag. As such, the references cited by the Examiner do not teach or suggest all of the limitations of Claim 23,

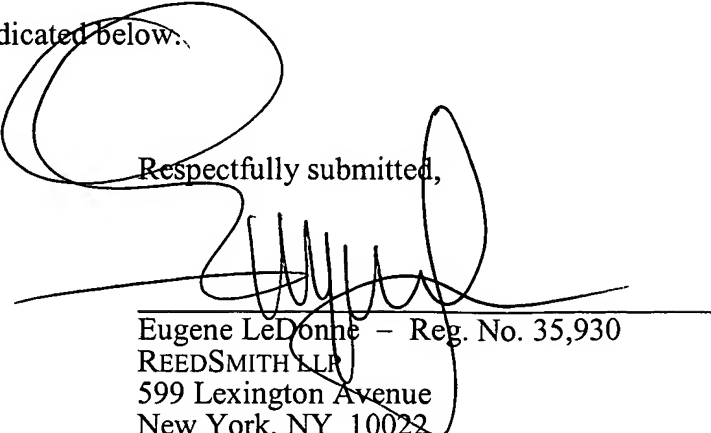
Furthermore, one of ordinary skill in the art would find no motivation to combine Presnick with Wilson and Olsen. Wilson and Olsen both relate, in part, to ink delivery systems for printing. Presnick, however, relates to thermal insulation for packaging. While Presnick does disclose a two bag structure, it is for packaging and not at all for ink delivery. There is no suggestion or teaching in Presnick that would alert one of ordinary skill in the art that the teachings of Presnick may somehow be applied to ink delivery systems such as those taught in

Wilson or Olsen. As stated above, the Examiner may not merely combine attributes of cited references without regard to their teachings. Rather, the Examiner must show that there is some motivation to combine the references in the manner suggested by the Examiner. See MPEP § 706.02(j). The Examiner has not, and cannot, show any motivation to combine the Presnick reference with the Wilson and Olsen references.

Since the cited references do not teach or suggest all of the limitations of Claim 23, and there is no motivation to combine the Presnick reference with the Wilson and Olsen references, Applicant respectfully asserts that the Examiner has failed to establish a prima facie case of obviousness of independent Claim 23 and corresponding Claim 24 because it is dependant from Claim 23. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,435,638 to Wilson et al. in view of U.S. Patent No. 6,435,638 to Olsen et al., and further in view of U.S. Patent No. 3,730,240 to Presnick.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,



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Appendix